TENTATIVE ORDER NO. R9-2011-0022 GENERAL NPDES PERMIT FOR RESIDUAL FIREWORK POLLUTANT WASTE DISCHARGES TO WATERS OF THE UNITED STATES IN THE SAN DIEGO REGION FROM THE PUBLIC DISPLAY OF FIREWORKS

(Comments by John Lormon, March 7, 2011)

The above referenced Tentative General Permit ("Order") covers residual firework pollutant waste to inland surface waters, enclosed bays and estuaries, harbors, lagoons, and the Pacific Ocean. The Order is scheduled to be heard on May 11, 2011 by the California Regional Water Quality Control Board ("Regional Board") and shall become effective of June 1, 2011 and expire on May 31, 2016, and staff is holding a workshop on Friday March 11 from 9:00 until 3:00 p.m. The comments provided below are provided for consideration by the staff prior to the workshop.

I. GENERAL COMMENTS

It should be recognized that the Regional Board's effort to regulate fireworks displays is novel and appears to be driven by the threat of a citizen suit as much as it is by the need to control the discharges. Because the Regional Board must make findings to justify the issuance of the Order, and because these findings must be supported by substantial evidence in the record, the Board will rely on the factual assertions and support provided by the staff reports and the record made at the public hearing. In its current state the evidence will not support issuance of the Order.

For example, the existing Sea World fireworks monitoring data tells us that it would take more than 100 years for a comparable once-a-year fireworks event to create water quality and sediment effects such as exist at Sea World.[1] Unlike the stagnant and shallow Mission Bay water, San Diego Bay is deeper and more dynamic and even for a 1,000 pound display, the extensive monitoring required (directly or collaboratively) for such a show cannot be justified. For the Board to impose such monitoring the burden, including costs, of this obligation must bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. While the Board may seek information from the discharger, it is constrained to do so only as may be reasonably required.[2] Applying these principles to this case, there is no support to justify monitoring of occasional events.

The Order applies to any person discharging fireworks over surface waters. However, for certain firework events it includes additional and expensive requirements,(principally monitoring and reporting). Whether these more strenuous obligations apply depends on the geographical location of the discharge (San Diego Bay and Mission Bay) and for these locations, the net weight of the fireworks discharged (1,000 pounds per year). Thus, if a display discharges fireworks debris into surface waters other than those listed, no matter how many pounds of fireworks that are involved, the permit obligations are less strenuous. This result seems arbitrary and not consistent with water quality programs and policy.

[1] It is not reasonable to assume that the Sea World shows with less than 1,000 pound fireworks do not contribute to the cumulative impact identified in the Mission Bay monitoring of their major holiday fireworks events.
[2] California Water Code sections 13267 and 13383.

For the reasons set out below, this Order should only include BMPs for fireworks displays, even if such displays are 1,000 pounds or greater, and the monitoring obligations proposed in the Order should be limited to shows based on frequency and weight of the discharge not the pre-detonation weight of the fireworks for the Regional Board only regulates the waste discharged to the waters of the U.S. or the State. Further, no monitoring requirements should be imposed on the discharges into San Diego Bay, or to infrequent discharges into Mission Bay.

II. COVERED DISCHARGES

Professional pyrotechnic devices used in firework displays can be grouped into three general categories: (i) aerial shells (paper and cardboard spheres or cylinders filled with pyrotechnic materials; (ii) low-level comet and multi-shot devices such as roman candles; and (iii) set piece displays mounted on the ground.

1. For covered firework events, staff asserts that residual firework pollutant waste discharged into surface waters constitutes discharge of a pollutant from a "point source" within the meaning of the CWA. Yet, staff fails to provide adequate legal support for the contention that fireworks displays constitute a point sources. Instead staff simply concludes that these events are subject to the Clean Water Act ("CWA") regulation. Staff should provide the factual and legal support for its belief that fireworks are subject to section 402 of the CWA. Even if fireworks displays are subject to section 402, we believe that BMP are the appropriate way to obtain compliance with section 402. BMP requirements set out in section V.B. of the Order are all that should be required especially in San Diego Bay which experiences strong tidal mixing which is up to 50 feet deep, thirteen miles long and a mile and a half wide in some sections, characteristics that are different from Mission Bay.[3]

2. Before the Board can adopt this Order it must make findings that are supported by "substantial evidence." These findings must "bridge the analytical gap between raw evidence and ultimate decision or order." See, *Topanga Assn. For a Scenic Community v. County of Los Angeles* (1974), 11 Cal. 3d 506, 515 [113 Cal. Rptr. 836]. In its current form the Order is replete with loose factual elements and speculation and this is especially true in regards to the support for the monitoring requirements. To construct the bridge between the evidence and the decision, the evidence relied upon must be substantial evidence, (i.e., "[I]t must be reasonable in nature, credible, and of solid value; it must actually be substantial proof of the essentials which the law requires in a particular case." *Bank of America v. State Water Resources Control Bd.* (1974), 42 Cal. App. 3d 198, 213.)

3. We recognize that the courts are hesitant to substitute their judgment for the agency's, and that makes it all the more important that the Board rely on the facts

[3] For a water body such as San Diego Bay, BMPs designed to limit and remove residual fireworks debris will provide adequate protection.

supported by substantial evidence in the record. This is equally true in regards to all elements of the Order including the monitoring obligations for San Diego Bay as provided in the Order.[4]

4. Staff uses Sea World's water quality, sediment, and benthic infauna monitoring data to support its recommendation that regulation of fireworks and monitoring is necessary. Staff noted that for more than a decade Sea World has conducted between 110 and 120 fireworks events per year, that the events take place in the same general location, and that these events "represent the maximum fireworks pollutant loading conditions and cumulative effects due to a combination of 1) the restricted circulation of waters within Mission Bay, 2) the shallow depth of the bay in the vicinity of the fireworks events, and 3) the high frequency of repeat fireworks events …." Fact Sheet: Attachment F – Fact Sheet, I. Discharge Information. ("Attachment F"), p. F-12.

5. Staff recognizes that other water bodies can exhibit different and unique effects from fireworks discharges due to site specific water body conditions. And, that even in the case of Sea World, for the average show (i.e., less than 1, 000 pounds) there is "little evidence of pollutants within the receiving water column at levels above applicable water quality criteria or detected reference site levels." Further, sample results fall below both the continuous exposure and maximum exposure California Toxics Rule ("CTR") concentrations. *Id.* pp. F-12 and F-13.

6. For three holiday related events, (with 1,000 pounds of net explosive weight per event), water chemistry monitoring showed one exceedance of instantaneous water quality criteria for phosphorous and elevated levels of some metals over the reference site.[5] Staff acknowledges that "lack of accumulation and exceedances of water quality criteria" exists, and they suggest reasons why this is the case. For example, CTR measures "dissolved" water chemistry instead of NPDES permit effluent limitations "total recoverable metal" standard, when in fact, there could be many reasons for the absence of exceedance except for one of the 19 chemicals of concern found in fireworks. For example, when the fireworks detonate the residual is consumed leaving de minimis or no amounts of waste falling into the water.

7. We must recognize that Sea World's major events were discharged into the same area of Mission Bay where more than 1,000 other (albeit smaller) fireworks shows had taken place over the past decade. Such a situation does not exist in other parts of Mission Bay nor in San Diego Bay. There are many factors that could affect monitoring results especially when only one or two constituents are identified. For example, tidal magnitude and mixing, salinity, prop wash, bottom fish feeding habits, dry and wet weather flow from a storm drains and other non-point sources all could play a role in the results seen in the Sea World monitoring.

[4] Note that for inland surface waters fireworks displays can exceed 1,000 pounds net weight and unless shown otherwise by staff and there is no monitoring obligation imposed on that event even if it is a 303(d) impaired water body. The presumption is just the reverse for San Diego and Mission Bay.

[5] The only metals whose levels in the sediment in the discharge zone that were at or above instantaneous dissolved CTR criteria were copper and zinc. And, the source of these metals could be from MS4 and past City of San Diego solid waste disposal practices, or the sludge deposited by the City at Fiesta Island.

8. Field sampling and laboratory methods and practices could also affect the accuracy and validity of the limited Sea World sampling data. Nevertheless, staff disregards all of these potential effects, because they found that "water chemistry sampling found elevated pollutant levels relative to the reference sites after major events." *Id.* p. F-14. They then recommend imposing extensive monitoring on occasional fireworks events. We believe that the Board should not impose unnecessary and costly burdens on firework exhibits, as the evidence in the record does not support the conclusion that these events are the cause of impacts to the aquatic environment.

9. Furthermore, the Board can issue the Order, and require BMPs only to protect the beneficial uses and water quality criteria of the region. It can continue to require monitoring at Sea World, the worst case scenario; but, the fact that Sea World may potentially be creating a condition of pollution does not justify imposing the same information gathering burden on the occasional show in other locations.

10. The Order asks for a Water and Sediment Monitoring Plan which "must include a conceptual model developed by dischargers to dictate the design of the sediment monitoring program. The model is required to consider the physical and chemical fate and transport of pollutants. This effort *is expected to better define the nature of residual firework pollutant waste discharges into receiving waters, and <u>may</u> result in a more representative sampling methodology for water chemistry following fireworks discharges*." *Id.* (Emphasis added). Missing from the analysis is the fact that there is no evidence of an occasional show creating similar concerns that might exist at Sea World's Mission Bay site. As a result there is insufficient evidence to justify the extensive monitoring requested by staff in this Order. Staff is asking the Board to grant an improper license to search for a justification of the monitoring obligation where none exists.

11. In support of its request for the monitoring data, staff points to sections 13267 and 13383 of the Water Code. However, the legislature did not give the Board unfettered right to ask for information. The Board may require technical or monitoring reports, but the "burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports." Water Code section 13267(b)(1). Section 13383(b) allows that the Board may seek information "as may be reasonably required." Because these words should have meaning, the Board should not impose unnecessary and unreasonably burdens occasional firework events with costly monitoring requirements, even where those events exceed the 1,000 pound limits.[6]

12. Staff acknowledges that based on Sea World's sediment toxicity and benthic community analysis, it "was difficult to draw any conclusions regarding the benthic effects of fireworks displays to the difference found between the reference stations and the fireworks fallout area." *Id.* p. F-14. Additional monitoring is required to separate out other pollutant sources to Mission Bay, such as storm water discharges and non-point sources.

[6] This is not to say that a person could pull up to the bay and discharge unlimited amounts of fireworks waste into the bay. It must be remembered that there is no evidence to support a conclusion as to the weight of fireworks waste remaining after ignition. For fireworks exhibits, there are costs limitations on the size and length of the shows, with most shows lasting no more than 15 to 20 minutes with interludes between the discharges. All of these facts impose an economical limit on the frequency and amount of fireworks discharged.

Sampling in both reference sites and the fallout zone ranged from non-toxic to highly toxic. Yet, the reference sites and the fallout zone had different habitat and species composition, thus, it was difficult to detect any difference in short term toxicity between and among the sites. And, the sediment monitoring at Sea World shows elevated pollutants within the sediment, but toxicity testing and results are "inconclusive, and the benthic community results cannot reasonably be evaluated." *Id.* p. F-15.

13. Staff itself conceded that based on water quality data obtained to date, it is "unlikely that single fireworks events of a smaller size than SeaWorld's (sic) Fourth of July and Labor Day events would cause exceedances of applicable water quality criteria in the receiving waters. However, the ***continuous*** discharge of waste from large fireworks events may result in longer-term pollutant accumulation in bay sediment, similar to the enrichment seen in the SeaWorld (sic) discharge zone." *Id.* p. F-15. (Emphasis added.) Conceding that each water body can exhibit different effects as a result of the discharge, "it is anticipated that proper implementation of BMPs required under the Order would adequately control and abate the discharge of pollutant wastes from public fireworks events to surface waters in the San Diego Region.." *Id.* p. F-16. We agree that BMPs are appropriate as the limit of what is necessary for fireworks shows other than for those shows held on a frequent basis in a limited water body segment.

14. Finally, we note that the Order needs to add definitions for many terms which are now open to uncertainty and confusion. For example, what is the difference between discharger, sponsor and operator? Point source is not sufficiently interpreted nor applied to the unique nature of fireworks, which staff groups into three general categories. The definition for the term "net explosive weight" is not sufficient and leaves room for debate (see, Attachment A – Definitions, A-5.) The word "continuous" is not found in the definition section of the Order. There are other examples where clarity could be added to the Order by adding or modifying the definition section.

Thank you for the opportunity to provide these initial comments, and I request the right to include additional comments at the workshop and subsequent hearing on this Order.